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Fig. 1a

Stage I

Undifferentiated embryonic stem cells
cultured on feeder cells



Stage II (7 days)

Generation of nesting positive islet cell progenitors in
suspended embryoid bodies



Stage III (7 days)

Culture of embryoid bodies in ITSF medium:
elimination of nestin negative cells/progenitor isolation



Stage IV (7 days)

Culture of progenitors with N2, B27, bFGF
supplementation: expansion of progenitors



Stage V (14 days)

Replacement of bFGF with nicotinamide and reduction of
glucose concentration to 5 mM: generation of surface-bound
islet like clusters containing insulin producing cells



Stage VI (14 days)

Suspension culture of dissociated surface-bound clusters:

- generation of purified suspended islet like clusters
- steep increase in insulin secretion capacity
- purification of insulin producing cells
- prolongation of *in-vitro* longevity of insulin producing cells

Fig. 1b

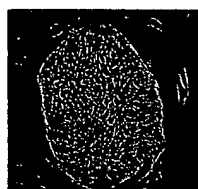


Fig. 1c



Fig. 1d



Fig. 1e

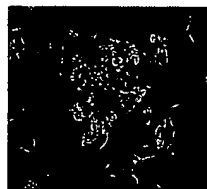


Fig. 1f

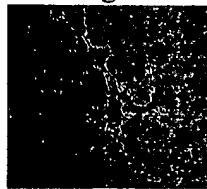
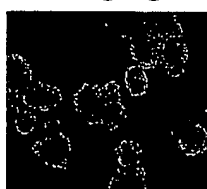


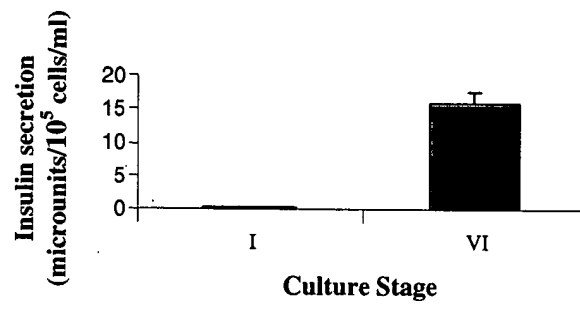
Fig. 1g



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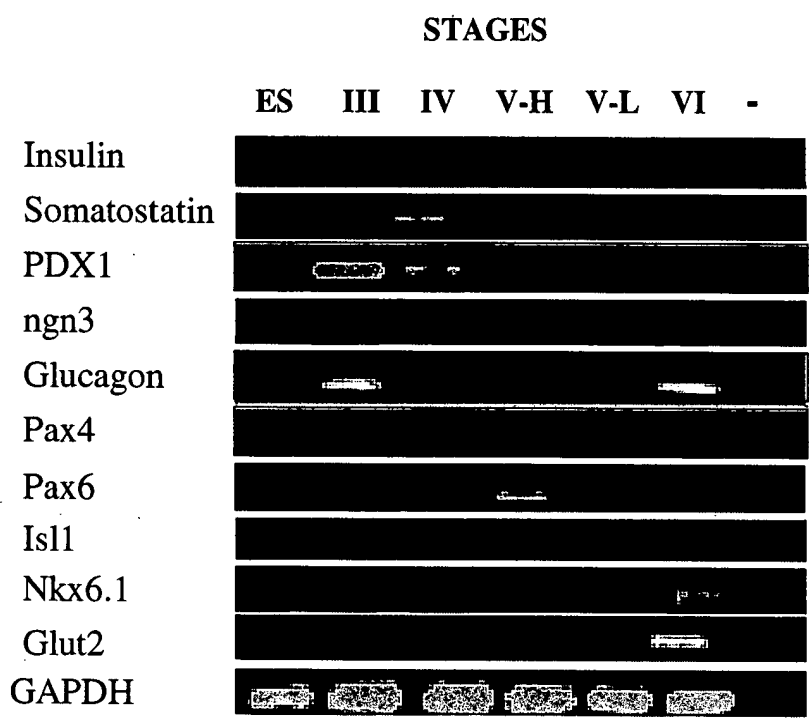
Fig. 2



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Fig. 3



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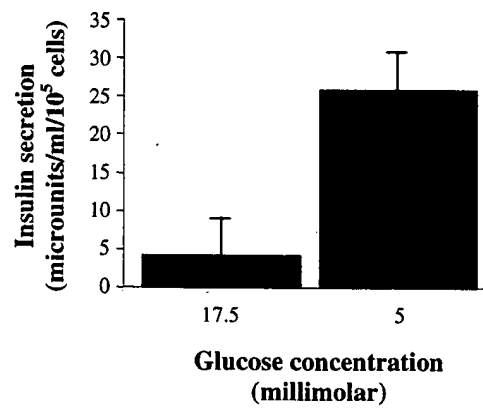


Fig. 4

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Fig. 5a



Fig. 5b



Fig. 5c

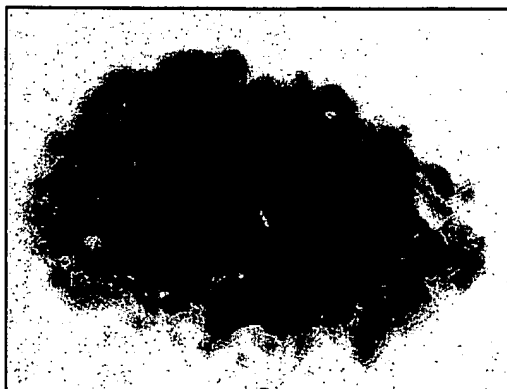
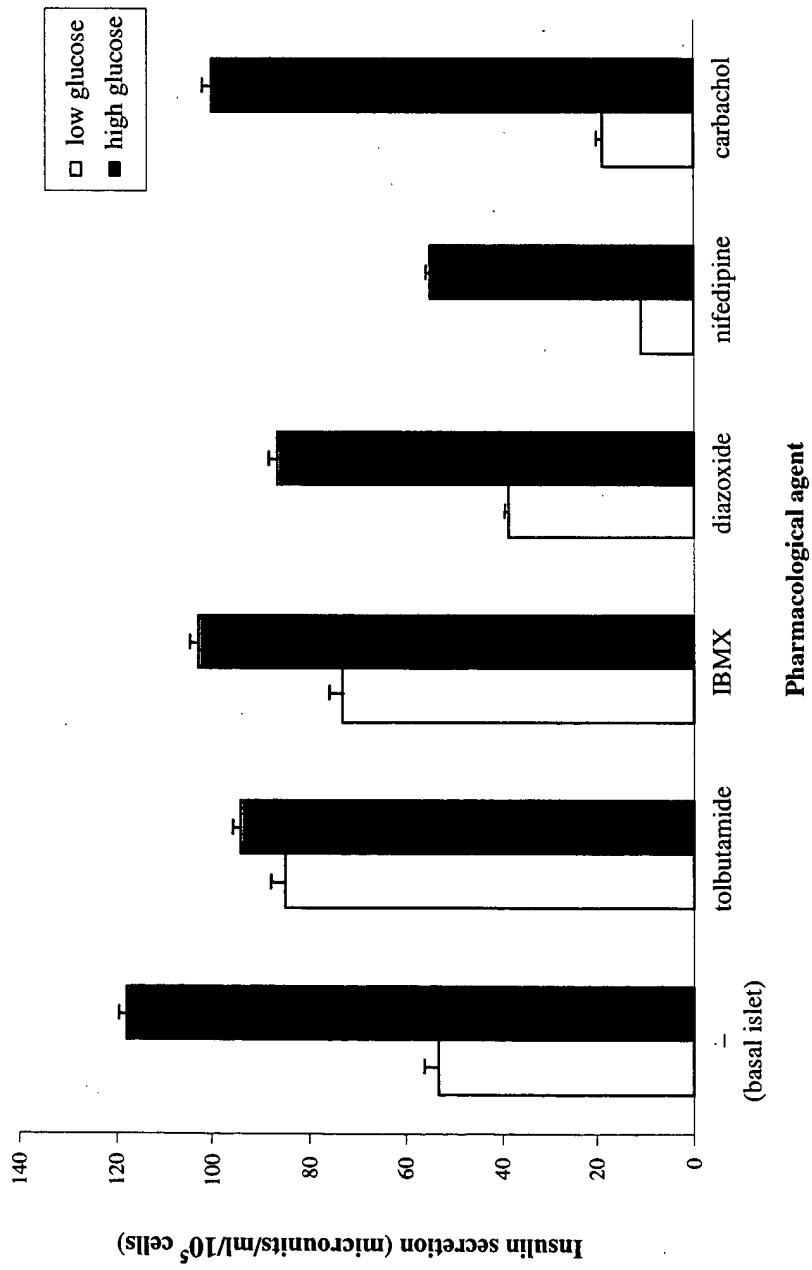


Fig. 6



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Fig. 7

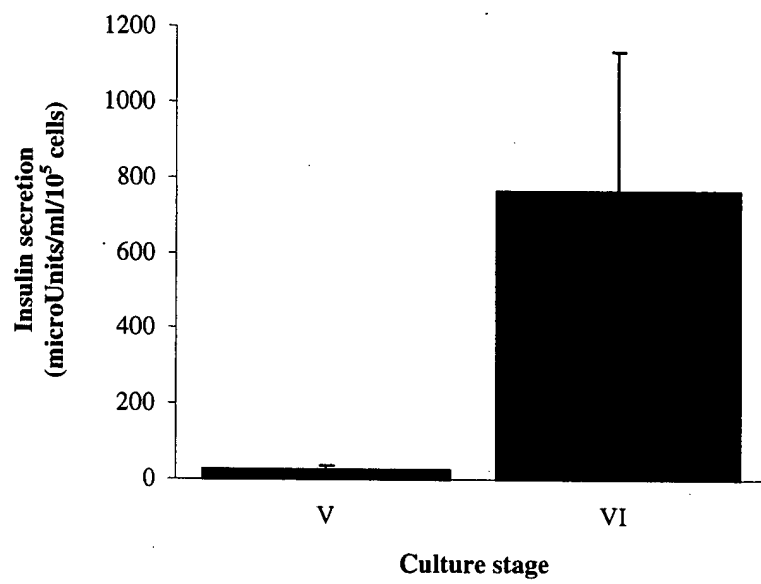


Fig. 8a

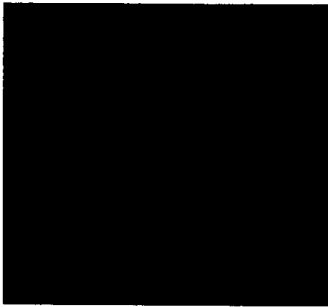


Fig. 8b



Fig. 8c

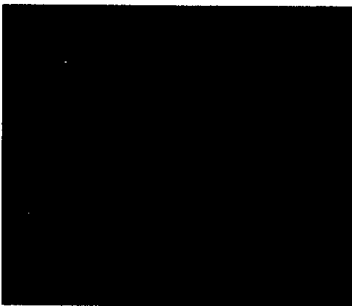
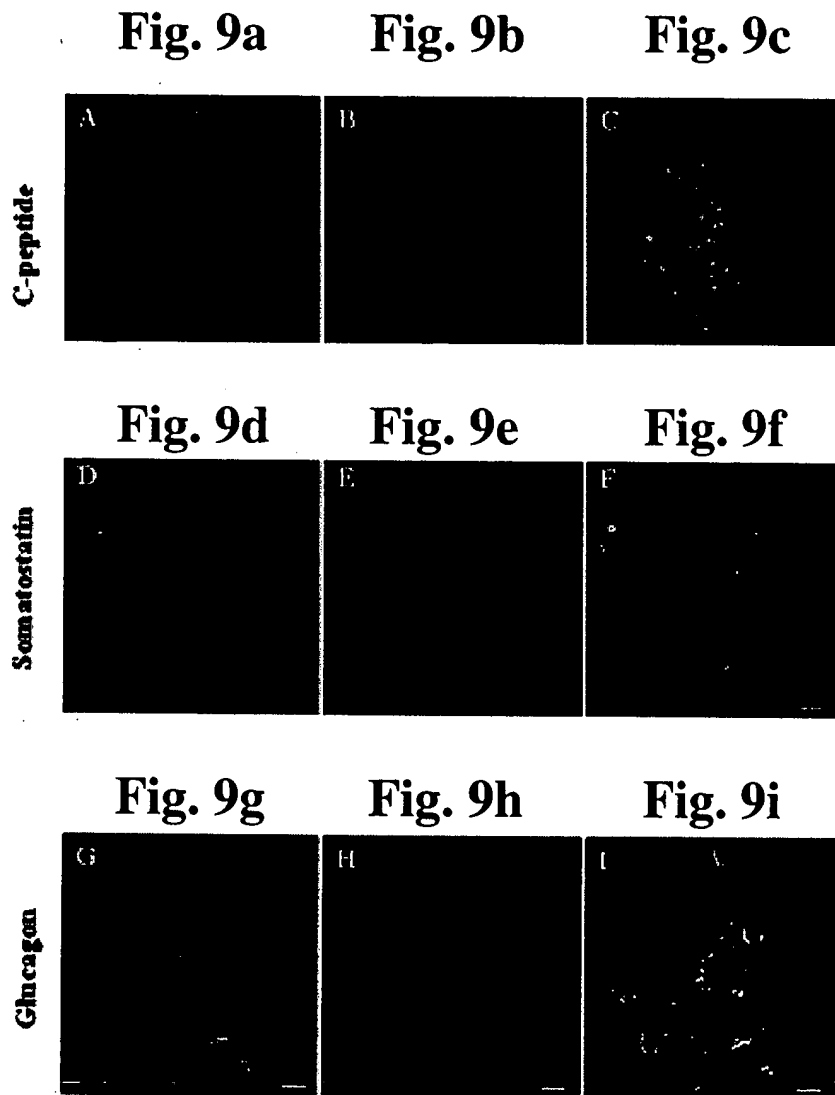


Fig. 8d





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Fig. 10

